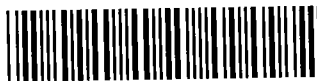


US EPA RECORDS CENTER REGION 5



466399

Monthly Oversight Report 51
ACS NPL Site
Griffith, Indiana
March 5, 2005 - April 2, 2005



BLACK & VEATCH

101 N. Wacker Drive
Suite 1100
Chicago, Illinois 60606-7302

Tel: (312) 346-3775
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Black & Veatch Special Projects Corp.

USEPA/RAC VII
American Chemical Services RAO (057-ROBF-05J7)

BVSPC Project 46526
BVSPC File C.3
April 15, 2005

Mr. Kevin Adler
U.S. Environmental Protection Agency
77 W. Jackson Boulevard (SR-6J)
Chicago, Illinois 60604-3590

Subject: Monthly Oversight Summary Report
No. 51 for March 2005

Dear Mr. Adler:

Enclosed is the Monthly Oversight Summary Report No. 51 for March 2005 for the American Chemical Services Superfund Site in Griffith, Indiana.

If you have any questions, please call (312-683-7856) or email (campbellm@bv.com).

Sincerely,

BLACK & VEATCH Special Projects Corp.

Larry M. Campbell, P.E.
Site Manager

Enclosure

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Monthly Oversight Summary Report No. 51
ACS Superfund Site WA57, 46526.238

Reporting Period: Month of March (March 5 - April 1, 2005)

BVSPC O/S Dates: March 15, 17, 24, 29, and 31, 2005 (Ms. Clark and Mr. Campbell)

| Personnel Summary Affiliation | No. of Personnel | Responsibility |
|--|------------------|--|
| Montgomery Watson Harza | 4 | Respondent's General Contractor |
| US Environmental Protection Agency | 1 | Federal Regulatory Agency |
| Indiana Department of Environmental Management | 1 | State Regulatory Agency |
| Black & Veatch Special Projects Corp. | 1 | USEPA Oversight Contractor |
| Independent Environmental Services | 2 | Clarifier Sludge Removal Contractor |
| ISOTEC | 3 | Chemical Oxidation Contractor |
| PSA Environmental | 2 | Chemical Oxidation Geoprobe Contractor |
| Griffith Fire Department | 30 | Chief and Staff of Fire Department |
| Austgen | 1 | General Contractor |
| Ryan Construction | 1 | General Contractor |
| Microbac | 1 | GWTP Sampling Contractor |

Construction Activities

Major Activities:

- Montgomery Watson Harza continued operating the groundwater treatment plant, the in-situ soil vapor extraction systems, and the air sparge systems.
- Montgomery Watson Harza and Independent Environmental Services removed sludge from the clarifier and restarted the clarifier rake.
- ISOTEC and PSA Environmental began the second full-scale round of chemical oxidation injections of modified Fenton's reagent in the South Area plume.
- Montgomery Watson Harza conducted the semiannual groundwater sampling.
- Montgomery Watson Harza provided briefing to the Griffith Fire Department.

- Microbac (formerly Simalabs) collected samples from the groundwater treatment plant for routine process monitoring.
- Montgomery Watson Harza held chemical oxidation status meetings on March 17, 24, and 31, 2005.

Activities Performed:

Montgomery Watson Harza (MWH) reported that it continued to operate the groundwater treatment plant (GWTP) at 27 gpm. MWH reported that water was pumped to the GWTP from all available sources. Microbac (formerly Simalabs) collected samples from the GWTP for routine process monitoring.

MWH reported that the failed gearbox that rotates the rake in the biotank clarifier was being repaired by the manufacturer. The GWTP continues to operate without the clarifier rake rotating. MWH reported that the repaired gearbox was reinstalled on March 16. When the rake rotation was started, the shear pin in the drive shaft broke. MWH reported it pumped the liquid from the clarifier on March 28. On March 29, Independent Environmental Services (IES) used a pneumatic sludge pump to transfer settled sludge (approximately 2.5 feet deep) from the clarifier cell into the biotank cells on the annulus of the clarifier. Water to dilute the sludge was obtained from the annulus cell using a sump pump. After removal of all the sludge from the clarifier cell and the central sump, no obstruction to rake rotation was found. MWH started the rake rotating and found that it worked fine. Thereafter, water was reintroduced into the clarifier cell; the rake was rotating satisfactorily through the end of the reporting period.

MWH continued to operate the On-Site Containment Area (ONCA) Still Bottoms Pond Area (SBPA) and Off-Site Containment Area (OFCA) in-situ soil vapor extraction (ISVE) systems, processing vapors through thermal oxidizers 1 and 2. Vapors from the ONCA SBPA ISVE system were processed through thermal oxidizer 1 (thermox 1), and those from the OFCA ISVE system were processed through thermox 2.

MWH reported that it was pulling vapors from 28 OFCA ISVE wells and that the two OFCA blowers are currently pumping vapors back to thermox 2, with minimal dilution air (valve is one stop from being fully closed). MWH reported that it was now pulling vapors from 23 ONCA SBPA ISVE wells. Limited to no flow has been observed in 6 of the original 14 activated wells. This system operated with zero ambient air, pumping vapors back to thermox 1.

MWH reported during the January reporting period that odors had been reported in the ACS break room located on the ONCA SBPA cap. MWH has since operated the SBPA air sparge system using only four of the six ONCA SBPA air sparge points AS3, AS4, AS5, and AS6, located at distance from the break room. ACS has not reported additional recurrence of odors in the break room.

MWH reported that Lee Orsoz received a telephone call from ACS on the evening of Wednesday, March 9, stating that one of the SBPA wells was leaking. Mr. Orsoz went to the project site and discovered that one of the onsite piezometers (PZ-36) was releasing groundwater. A small volume (<1 gallon) was released and the liquid remained on the cap; it did not run off of the cap. The water was cleaned up and the air sparge system was turned off, as it was suspected the air sparging was causing the groundwater to

"sputter" out. Once that equipment was turned off, the leaking stopped. The air sparge system was later reactivated without any additional problems.

ISOTEC and PSA Environmental mobilized to the site on Monday, March 14 to begin the second full-scale round of chemical oxidation (ChemOx) injections. MWH held a project kick-off/health & safety meeting for the start of the ChemOx injections on Tuesday, March 15. The meeting was attended by personnel from PSA Environmental, ISOTEC, MWH, and Black & Veatch Special Projects Corp. (BVSPC). Work was done in 10-day sessions with a 4-day break between each session. A kick-off/health & safety meeting was held on the first day of each 10-day session.

MWH prepared a staging area for the hydrogen peroxide on the OFCA. A gravel pad was constructed approximately 100 feet west of Colfax Avenue. This location is slightly uphill such that a spill would be contained on the pad rather than draining toward Colfax Avenue.

MWH reported that it is injecting ChemOx in a grid pattern similar to that used during the first full-scale injection program; however, the grid points were offset a few feet from the initial locations. MWH expects to inject ChemOx at 445 locations, including beneath the roadway of Colfax Avenue. MWH reported that a total of 207 points had been injected as of the end of March 31. MWH reported that only 6 points remain inside the fence and 10 points outside the fence on Reder Road. The remainder of the points will be on the shoulders and in the roadway of Colfax Avenue.

MWH reported that Jim Reyome, the Griffith Director of Public Works, had prepared a press release for distribution to local police, fire department, and newspapers regarding the ChemOx injection work in the roadway of Colfax Avenue starting on April 11. Contrary to MWH's plans to work longer hours on the weekend, Mr. Reyome recommended that MWH maintain the 9 AM - 3 PM scheduled planned for weekday work.

MWH reported that some of ISOTEC's equipment had been stolen during the first 4-day break, probably between the night of Saturday March 26 and the morning of Sunday March 27. Padlocks on the OFCA gate and the ISOTEC truck and trailer had been cut. Two portable generators and one portable air compressor were stolen from the truck. No other equipment was missing, and there was no damage to the chemicals or to PSA's equipment. ISOTEC will park its truck and towed air compressor adjacent to the GWTP. MWH continues to store the water regulator in the GWTP overnight to eliminate freezing problems.

MWH reported that it conducted the semiannual groundwater level and sampling event during the period March 21 - 29. MWH reported that it had measured all water levels on March 21 and then began the sampling of 32 monitoring well. MWH reported that the water table was the highest it had been in the last 5 years. MWH reported that the samples are being analyzed for indicator parameters [i.e., VOCs, SVOCs, arsenic, and bis(2-chloroethyl)ether], and it expects the results in 3 to 4 weeks.

MWH reported that it has received a proposal from a Fliteway Technologies to furnish and install a containment around the largest air blower at the GWTP in an effort to reduce noise from this source, in

response to complaints from nearby neighbors. MWH reported that the containment could be installed within 3 weeks.

MWH reported that the Chief and 29 members of the Griffith Volunteer Fire Department visited the site on Tuesday evening March 22. MWH provided a tour of the GWTP, described the operations at the site and the relationship of site personnel to the ACS facility, and provided them emergency contact information.

MWH reported that Ryan Construction was onsite raking the gravel from the shoulder back onto the entrance road to the GWTP.

MWH conducted ChemOx status meetings on March 17, 24, and 31 at the site. BVSPC attended these meetings.

Attached are BVSPC weekly reports No. 210 through 213, correspondence, log book notes, and photographs of the daily activities. BVSPC's crew conducted oversight of the major field activities on March 15, 17, 24, 29, and 31.

Topics of Concern: None

Concern Resolution: None

Upcoming Activities:

- MWH to continue operating the GWTP and the OFCA and ONCA SBPA ISVE and air sparge systems.
- MWH, ISOTEC, and PSA to complete the ChemOx injections.
- MWH to conduct post ChemOx injection sampling in May.
- MWH, ISOTEC, and PSA to conduct the third round of ChemOx injections in the summer (June or July).
- MWH to monitor odors in the ACS break room.
- MWH to assess results of additional soil gas samples to assess possible soil vapor intrusion into the house basement resulting from the smear zone in the South Area plume.
- MWH to reassess its approach to completing the lower aquifer investigation.
- MWH to install noise abatement structure to reduce noise from GWTP blower.

Signature: Larry Campbell

Date: April 14, 2005

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Weekly Oversight Summary Report No. 210
ACS Superfund Site WA57, 46526.238

Reporting Period: Week of March 7, 2005

BVSPC O/S Dates: Canceled because of limited site activities.

| Personnel Summary Affiliation | No. of Personnel | Responsibility |
|---------------------------------------|------------------|---------------------------------|
| Montgomery Watson Harza | 2 | Respondent's General Contractor |
| Black & Veatch Special Projects Corp. | 1 | USEPA Oversight Contractor |
| Austgen | 1 | General Contractor |

Construction Activities

Major Activities:

- Montgomery Watson Harza continued operating the groundwater treatment plant, the in-situ soil vapor extraction systems, and the air sparge systems.

Activities Performed:

Montgomery Watson Harza (MWH) reported that it continued to operate the groundwater treatment plant (GWTP) at 27 gpm. MWH reported that water was pumped to the GWTP from all available sources.

MWH reported that the failed gearbox that rotates the rake in the biotank clarifier was still being repaired by the manufacturer; MWH will install it promptly following its receipt onsite. The GWTP continues to operate without the clarifier rake rotating.

MWH continued to operate the On-Site Containment Area (ONCA) Still Bottoms Pond Area (SBPA) and Off-Site Containment Area (OFCA) in-situ soil vapor extraction (ISVE) systems, processing vapors through thermal oxidizers 1 and 2. Vapors from the ONCA SBPA ISVE system were processed through thermal oxidizer 1 (thermox 1), and those from the OFCA ISVE system were processed through thermox 2.

MWH reported that it was pulling vapors from 28 OFCA ISVE wells and that the two OFCA blowers are currently pumping vapors back to thermox 2 with minimal dilution air (valve is one stop from being fully closed). MWH reported that it was pulling vapors from 23 ONCA SBPA ISVE wells. Limited to no flow has been observed in 6 of the original 14 activated wells. This system operated with zero ambient air, pumping vapors back to thermox 1.

MWH reported during the January reporting period that odors had been reported in the ACS break room located on the ONCA SBPA cap. MWH has since operated the SBPA air sparge system using only four

of the six ONCA SBPA air sparge points AS3, AS4, AS5, and AS6, located at distance from the break room. ACS has not reported additional recurrence of odors in the break room.

MWH reported that Lee Orsoz received a telephone call from ACS on the evening of Wednesday, March 9, stating that one of the SBPA wells was leaking. Mr. Orsoz went to the project site and discovered that one of the onsite piezometers (PZ-36) was releasing groundwater. A small volume (<1 gallon) was released and the liquid remained on the cap; it did not run off of the cap. The water was cleaned up and the air sparge system was turned off, as it was suspected the air sparging was causing the groundwater to "sputter" out. Once that equipment was turned off, the leaking stopped.

Topics of Concern: None.

Concern Resolution: None.

Upcoming Activities:

- MWH to continue operating the GWTP and the OFCA and ONCA SBPA ISVE and air sparge systems.
- MWH to monitor odors in the ACS break room.
- MWH to assess results of additional soil gas samples to assess possible soil vapor intrusion into the house basement resulting from the smear zone in the South Area plume.
- MWH to reassess its approach to completing the lower aquifer investigation.
- MWH to conduct second full-scale chemical oxidation injection application in March.
- MWH to conduct semiannual groundwater sampling event in March.
- MWH to conduct briefing for Griffith Volunteer Fire Department on March 22.
- MWH to assess methods to reduce noise from GWTP blowers.

Signature: Margaret Clark

Date: March 15, 2005

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Weekly Oversight Summary Report No. 211
ACS Superfund Site WA57, 46526.238

Reporting Period: Week of March 14, 2005

BVSPC O/S Dates: March 15 and 17, 2005 (Ms. Clark)

| Personnel Summary Affiliation | No. of Personnel | Responsibility |
|--|------------------|---------------------------------|
| Montgomery Watson Harza | 3 | Respondent's General Contractor |
| Indiana Department of Environmental Management | 1 | State Regulatory Agency |
| Black & Veatch Special Projects Corp. | 1 | USEPA Oversight Contractor |
| PSA Environmental | 2 | Chemical Oxidation Driller |
| ISOTEC | 3 | Chemical Oxidation Contractor |
| Austgen | 1 | General Contractor |

Construction Activities

Major Activities:

- Montgomery Watson Harza continued operating the groundwater treatment plant, the in-situ soil vapor extraction systems, and the air sparge systems.
- Montgomery Watson Harza began second round of Chemical Oxidation injections on and around property at 1002 Reder Road.
- Montgomery Watson Harza conducted a chemical oxidation status meeting at the project site on March 17.

Activities Performed:

Montgomery Watson Harza (MWH) reported that it continued to operate the groundwater treatment plant (GWTP).

MWH continued to operate the On-Site Containment Area (ONCA) Still Bottoms Pond Area (SBPA) and Off-Site Containment Area (OFCA) in-situ soil vapor extraction (ISVE) systems.

MWH reported that the air sparging equipment was turned off briefly last week because groundwater was found to be leaking from SBPA piezometer PZ-36 (as reported in the weekly report for March 7). MWH pumped air from the wells next to the piezometer and then turned on the air sparge system without any additional problems.

ISOTEC and PSA Environmental mobilized to the site on Monday, March 14 to begin the second full-scale round of chemical oxidation (ChemOx) injections.

MWH held a project kick-off/health & safety meeting for the start of the ChemOx injections on Tuesday, March 15. The meeting was attended by personnel from PSA Environmental, ISOTEC, MWH, and Black & Veatch Special Projects Corp. (BVSPC). Work will be done in 10 day sessions with a 4 day break between each session. A kick-off/health & safety meeting will be held on the first day of each 10 day session. The following topics were covered at this meeting:

- Introduction of personnel
- Overview of ACS site
- Required health & safety documentation
- Work schedule
- Health and safety concerns including: traffic, spill control, work tents and heating hazards, temperature issues, drilling safety, vehicle and drum transport, hazard communication.

Tuesday, March 15 was the first day of drilling and injection of ChemOx for this second round. There was a slight delay in beginning the injections as the hydrogen peroxide was delivered in 55-gallon drums that had to be unloaded from a truck, rather than a single tank that had been expected. The drums will last through the end of the week and a tank of peroxide is scheduled to be delivered on Thursday, March 17.

MWH prepared a staging area for the hydrogen peroxide on the OFCA. A gravel pad has been constructed approximately 100 feet west of Colfax Avenue. This location is slightly uphill such that a spill would be contained on the pad rather than draining toward Colfax Avenue.

MWH reported that it is injecting ChemOx in a grid pattern similar to that used during the first full-scale injection program; however, the grid points will be offset a few feet from the initial locations. MWH expects to inject ChemOx at 445 locations, completing an average of 15 points per day. Eight points were completed on Tuesday, March 15; 18 points were reported completed for Wednesday, March 16; and 14 points were completed as of the progress meeting on the afternoon of Thursday, March 17.

MWH conducted a ChemOx status meeting at the project site on March 17. BVSPC attended this meeting. The following topics were covered at this meeting:

- Health and safety
- Progress report for ChemOx activity
- Look-ahead schedule
- Interaction with the community.

Topics of Concern: None.

Concern Resolution: None.

Upcoming Activities:

- MWH to continue operating the GWTP and the OFCA and ONCA SBPA ISVE and air sparge systems.

- MWH to monitor odors in the ACS break room.
- MWH to assess results of additional soil gas samples to assess possible soil vapor intrusion into the house basement resulting from the smear zone in the South Area plume.
- MWH to reassess its approach to completing the lower aquifer investigation.
- Next construction progress meeting will occur onsite on March 24 at 10:00 AM.
- MWH to conduct semiannual groundwater sampling event beginning March 21.
- MWH to conduct briefing for Griffith Volunteer Fire Department on March 22.
- Post ChemOx injection sampling will occur in May.
- Third round of ChemOx injections tentatively scheduled for late June / early July.
- MWH to assess methods to reduce noise from GWTP blowers.

Signature: Margaret Clark

Date: March 24, 2005

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**PROPOSED AGENDA -- SITE MEETING
MARCH 17, 2005
AMERICAN CHEMICAL SERVICE, NPL SITE
GRIFFITH, INDIANA**

MEETING DATE: Thursday, March 17, 2005

MEETING TIME: 02:00 PM

MEETING LOCATION: MWH Trailer at ACS

TOPICS:

CHEM-OX STATUS

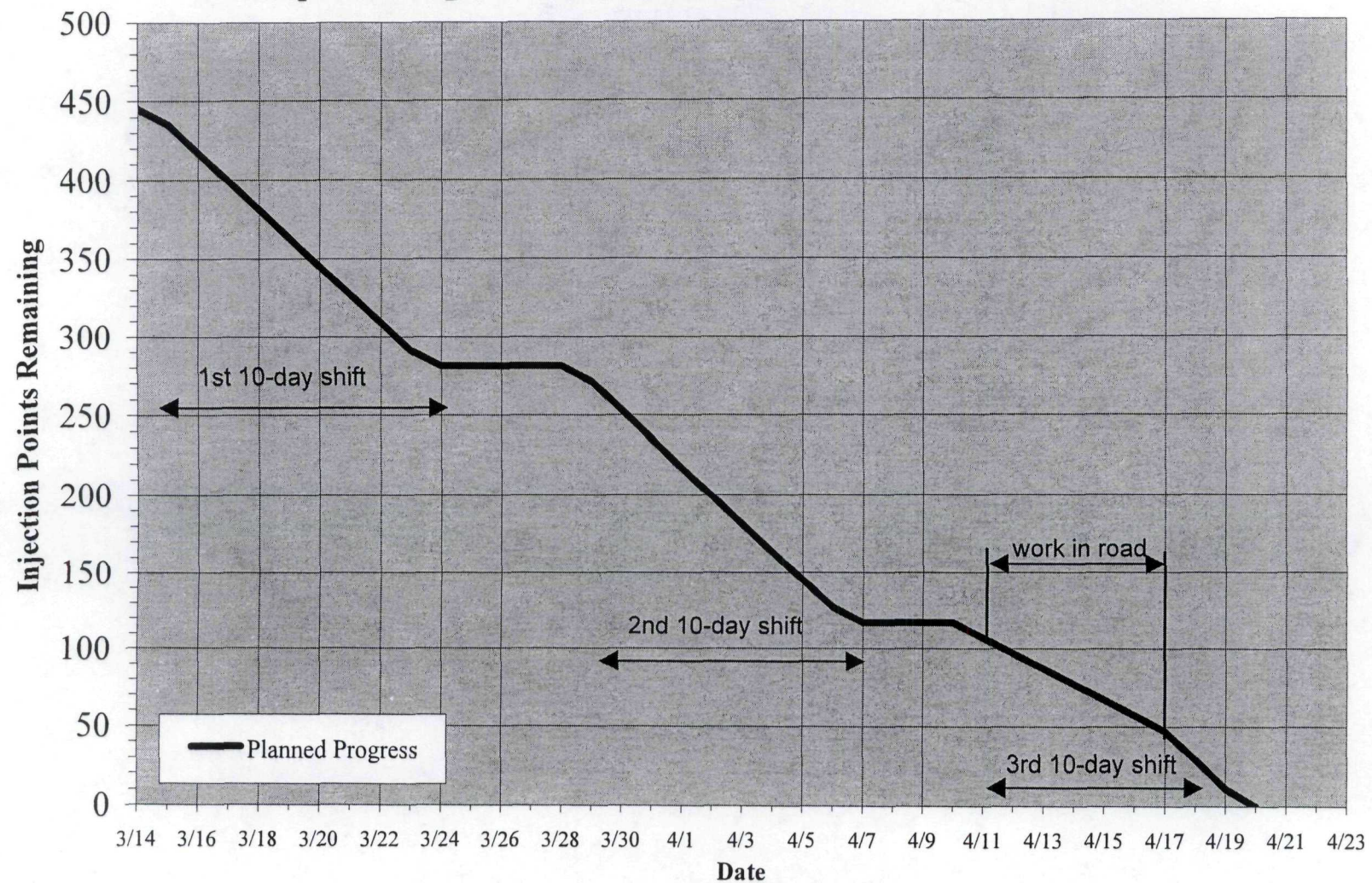
- Health and Safety
 - Kick-off Meeting Summary
 - On-going issues/items to be addressed/items addressed
- Progress Report
 - Number of points completed out of estimated 445 points (30 days = 15 points/day)
 - Anything that has effected progress
 - Anything identified that could effect future progress
- Look-ahead Schedule
 - Schedule for current 10-day shift
 - Estimated completion date
- Interaction with Community
 - Residents living in house during work
 - Colfax lane-closure planning issues

OTHER TOPICS

- Questions/Comments
- Next Meeting – March 24th
 - Ongoing Chem-Ox Work
 - March Groundwater Sampling Event (starting March 21st)

CAS/pjv
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Anticipated Progress Chart for 2nd Full Scale Chemical Oxidation



**WEEKLY CHEM-OX CONSTRUCTION MEETING MINUTES
FOR MARCH 17, 2005 MEETING
AMERICAN CHEMICAL SERVICE, NPL SITE
GRIFFITH, INDIANA**

MEETING DATE: Thursday, March 17, 2005

MEETING TIME: 2:00 PM

MEETING LOCATION: MWH Trailer at ACS

ATTENDEES: Kevin Adler – U.S. EPA (by phone)
Prabhakar Kasarabada - IDEM
Margaret Clark – BVSPC
Amy Clore – MWH
Todd Lewis – MWH
Matthew Mesarch – MWH
Lee Orosz – MWH
Chad Smith – MWH
Peter Vagt – MWH (by phone)

TOPICS

Health and Safety Summary

On Tuesday, March 15th, the Health and Safety kick-off meeting for the second full-scale chemical oxidation (Chem-Ox) application took place, attended by MWH, BVSPC, ISOTEC, and PSA. Topics included: Site introduction, HAZWOPER form verification, work schedule, and a discussion of various work-specific safety concerns. The work-specific safety concerns focused on traffic awareness, chemical handling, and cold weather conditions. MWH plans to hold tailgate health and safety briefings at the beginning of each work day, and a more extended kick-off meeting at the beginning of each 10-day work period.

In order to help minimize the amount of vapors and heat issuing from the boreholes upon withdrawal of the drilling rods, MWH will begin injecting at points in the grid not immediately adjacent to one another. MWH will also instruct the drillers to wait 20-30 minutes after injection is complete before removing the drill rods. Throughout the application MWH will be monitoring the air quality of the work area with a photo-ionization detector (PID). PID readings from the breathing zone of the workers during the first two days of work were 0.0 ppm.

Progress Report

MWH will be injecting in the same general grid pattern as followed in the first full-scale Chem-Ox application. MWH is shifting the grid a few feet so that the injection locations will be off-set from the previous injection locations. Eight application points were completed on March 15th and 18 points were completed on March 16th, for a total of 26 points. The total number of injection points planned is 445. MWH anticipates completing an average of 15 points per day. Therefore we plan to complete the second full-scale application within a few days of April 20, 2005.

The large peroxide tanker was scheduled to arrive on March 14th, but was delayed until March 18th. In its place the chemical supplier delivered peroxide to the site in 55-gallon drums. The unloading and staging of these drums was performed by ISOTEC. This activity caused some delays on March 15th. The drums are being staged in the area of new gravel created for temporary tanker storage.

Upon completion of application, a letter will be issued summarizing the activities and proposing sampling locations for a post-application sampling event. This event would take place around four weeks after completion of the application, with the purpose of monitoring the progress of the Chem-Ox treatment. The results of this post-application sampling event would then be used to propose a third full-scale treatment, tentatively scheduled to start in late June or July 2005.

Community Interaction

MWH has talked with the residents living at 1002 Reder Road. They have been given information of who to contact if they have any questions or concerns. Jim Reyome (Director of the Griffith Public Works) has approved the Traffic Control Plan for the work in Colfax Ave. As the work progresses, MWH will communicate with Mr. Reyome's office to keep him informed of the exact days on which we will be closing traffic lanes for work.

Look Ahead Schedule

| | |
|--|--|
| March 17, 2005 through March 24, 2005 | <ul style="list-style-type: none">• March 24th will mark the end of the first 10-day shift. The second 10-day shift will begin at noon on Tuesday, March 29th.• Enclosed with the minutes is an Anticipated Progress Chart for the 2nd Full Scale Chem-Ox Injection. The anticipated completion date is around April 20th.• ACS Groundwater Monitoring will begin on March 21st. |
| Health and Safety Items to Monitor | <ul style="list-style-type: none">• Routine daily tailgate health and safety meetings for all work activities• Continued air monitoring in injection area• Traffic safety awareness• Practice proper chemical handling and storage procedures• Monitor cold and wet weather conditions in advance |

Next Construction Meeting ~ Thursday, March 24, 2005, 10 a.m. at MWH Trailer at ACS
(As Thursday is the end of the first 10-day shift, injection activities will likely end around noon on that day, followed by some clean up work)

ALC/ps/PIV

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Weekly Oversight Summary Report No. 212
ACS Superfund Site WA57, 46526.238

Reporting Period: Week of March 21, 2005

BVSPC O/S Dates: March 24, 2005 (Mr. Campbell)

| Personnel Summary Affiliation | No. of Personnel | Responsibility |
|---------------------------------------|------------------|---------------------------------|
| Montgomery Watson Harza | 4 | Respondent's General Contractor |
| US Environmental Protection Agency | 1 | Federal Regulatory Agency |
| Black & Veatch Special Projects Corp. | 1 | USEPA Oversight Contractor |
| PSA Environmental | 2 | Chemical Oxidation Driller |
| ISOTEC | 3 | Chemical Oxidation Contractor |
| Austgen | 1 | General Contractor |
| Ryan Construction | 1 | General Contractor |

Construction Activities

Major Activities:

- Montgomery Watson Harza continued operating the groundwater treatment plant, the in-situ soil vapor extraction systems, and the air sparge systems.
- Montgomery Watson Harza continued the second round of Chemical Oxidation injections on and around property at 1002 Reder Road.
- Montgomery Watson Harza began the semiannual groundwater sampling event.
- Montgomery Watson Harza conducted a chemical oxidation status meeting at the project site on March 24.

Activities Performed:

Montgomery Watson Harza (MWH) reported that it continued to operate the groundwater treatment plant (GWTP) at 27 gpm. MWH reported that water was pumped to the GWTP from all available sources.

MWH reported that the repaired gearbox that rotates the rake in the biotank clarifier was reinstalled last Wednesday March 16. When the rake rotation was started, the shear pin in the drive shaft broke. MWH reported that it will pump out the liquid and clean sludge from the clarifier next week in an attempt to locate the cause of the rake rotation failure.

MWH continued to operate the On-Site Containment Area (ONCA) Still Bottoms Pond Area (SBPA) and Off-Site Containment Area (OFCA) in-situ soil vapor extraction (ISVE) systems.

MWH reported that it held tailgate safety meetings with ISOTEC and PSA prior to the beginning of work each day. The safety meetings were attended by members from PSA, ISOTEC, and MWH. MWH reported that was monitoring air quality at the chemical oxidation (ChemOx) probe holes and in the worker's breathing zone, but had not detected any VOCs. MWH reported that it provided a H&S lunch on March 21 to recognize the safe work practices of the ChemOx contractors.

ISOTEC and PSA continued the ChemOx injections in the off-site South plume area near the house at 1002 Reder Road. MWH reported that a total of 156 points had been injected as of noon on March 24, the end of the first 10-day shift of ChemOx injections. Both contractors demobilized from the site on March 24, and will remobilize to the site on March 29. MWH reported problems in obtaining sufficient water from the fire hydrant because of freezing of the flow regulator. MWH started storing the regulator in the GWTP overnight to eliminate this problem.

MWH reported that it will maintain contact with the City of Griffith and with the family at 1002 Reder Road regarding the status of the ChemOx injection program. MWH reported that Jim Reyome, the Griffith Director of Public Works, orally approved the Traffic Control Plan for the ChemOx injection work in Colfax Avenue.

MWH reported that it had begun the semiannual groundwater level and sampling event on March 21. MWH reported that it had measured all water levels on March 21 and then began the monitoring well sampling. MWH reported that the water table was the highest it had been in the last 5 years. MWH reported that 14 of 32 wells had been sampled as of Thursday March 24, and that it expected to complete all sampling by Tuesday March 29. MWH reported that the samples are being analyzed for indicator parameters [i.e., VOCs, SVOCs, arsenic, and bis(2-chloroethyl)ether], and it expects the results in 3 to 4 weeks.

MWH reported that it has received a proposal from a supplier to furnish and install a containment around the largest air blower at the GWTP in an effort to reduce noise from this source, in response to complaints from nearby neighbors. MWH reported that the containment should be installed within 3 weeks.

MWH reported that 29 members of the Griffith Volunteer Fire Department visited the site on Tuesday evening March 22. MWH provided a tour of the GWTP, described the operations at the site and the relationship of site personnel to the ACS facility, and provided them emergency contact information.

MWH reported that Ryan Construction was onsite raking the gravel from the shoulder back onto the entrance road to the GWTP.

MWH conducted a ChemOx status meeting at the site on Thursday, March 24. Black & Veatch Special Projects (BVSPC) personnel attended this meeting.

Topics of Concern: None.

Concern Resolution: None.

Upcoming Activities:

- MWH to continue operating the GWTP and the OFCA and ONCA SBPA ISVE and air sparge systems.
- MWH to monitor odors in the ACS break room.
- MWH to assess results of additional soil gas samples to assess possible soil vapor intrusion into the house basement resulting from the smear zone in the South Area plume.
- MWH to reassess its approach to completing the lower aquifer investigation.
- Next construction progress meeting will occur onsite at 2 PM on March 31.
- MWH to complete semiannual groundwater sampling event.
- Post ChemOx injection sampling will occur in May.
- Third full-scale round of ChemOx injections tentatively scheduled for late June / early July.
- MWH to install noise containment structure to reduce noise from GWTP blower.

Signature: Larry Campbell

Date: March 29, 2005

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**PROPOSED AGENDA -- SITE MEETING
MARCH 24, 2005
AMERICAN CHEMICAL SERVICE, NPL SITE
GRIFFITH, INDIANA**

MEETING DATE: Thursday, March 24, 2005

MEETING TIME: 10:00 AM

MEETING LOCATION: MWH Trailer at ACS

TOPICS:

CHEM-OX STATUS

- Health and Safety
 - Incidents/On-going issues
 - Items to be addressed/items addressed
 - Next Kick-Off meeting
- Progress Report
 - Number of points completed
 - Anything that has effected progress
 - Anything identified that could effect future progress
- Look-ahead Schedule
 - Current 10-day shift
 - Estimated completion date
- Interaction with Community
 - Colfax lane-closure planning issues

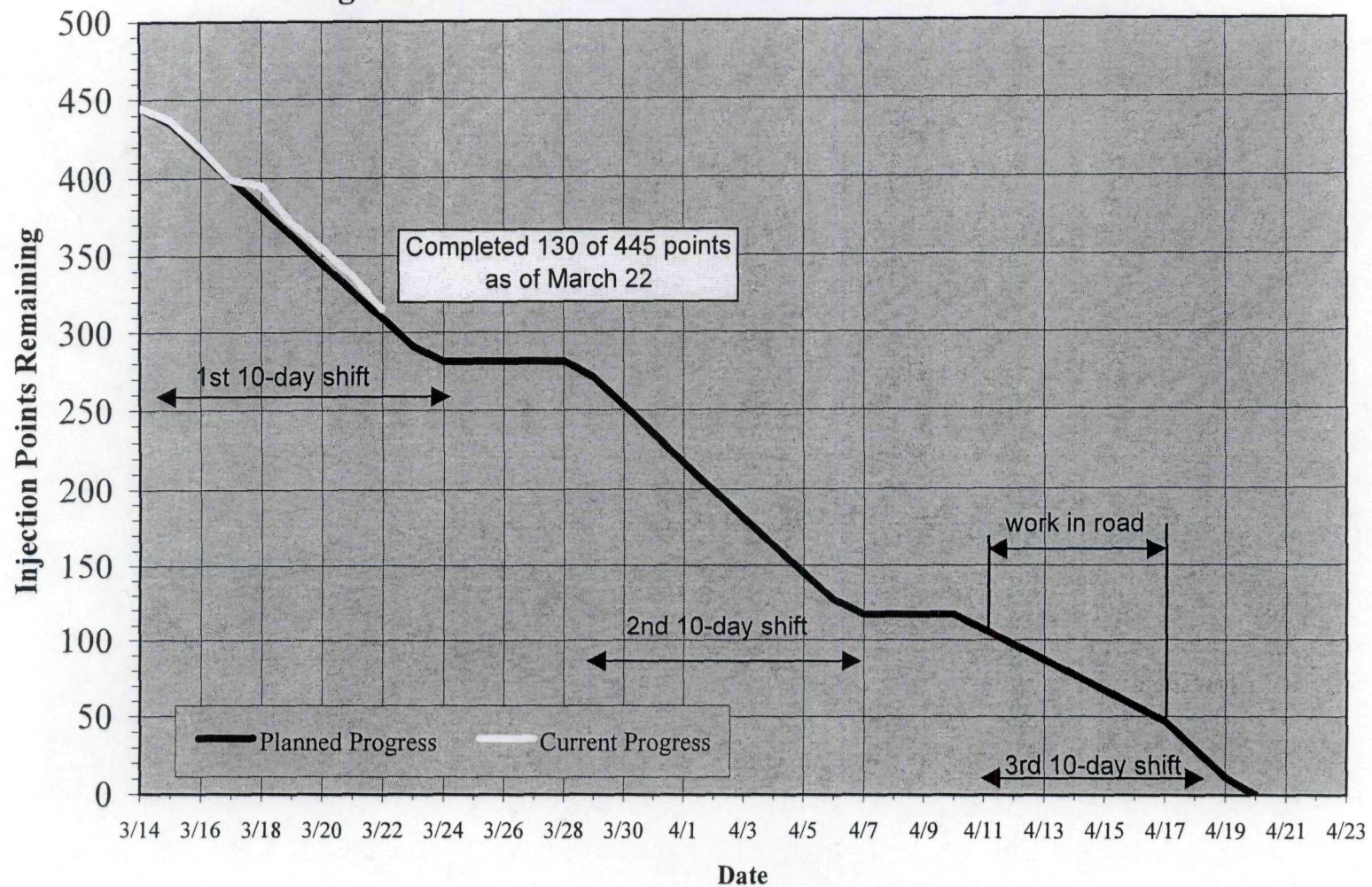
OTHER TOPICS

- March 2005 Groundwater Monitoring Event
- Questions/Comments
- Next Meeting – March 31st
 - Chem-Ox Work
 - March Groundwater Sampling Event

CAS/

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Progress Chart for 2nd Full Scale Chemical Oxidation



**WEEKLY CHEM-OX CONSTRUCTION MEETING MINUTES
FOR MARCH 24, 2005 MEETING
AMERICAN CHEMICAL SERVICE, NPL SITE
GRIFFITH, INDIANA**

MEETING DATE: Thursday, March 24, 2005

MEETING TIME: 10:00 AM

MEETING LOCATION: MWH Trailer at ACS

ATTENDEES: Kevin Adler – U.S. EPA
Larry Campbell – BVSPC
Amy Clore – MWH (by phone)
Matthew Mesarch – MWH
Lee Orosz – MWH
Chad Smith – MWH
Peter Vagt – MWH

TOPICS

Health and Safety Summary

There have been no health and safety incidents since the last meeting on Thursday, March 17th. MWH is monitoring the air quality of the Chemical Oxidation (Chem-Ox) Treatment work area with a photo-ionization detector (PID). There have been no detections in the breathing zone of the workers. A health and safety lunch was held on Monday, March 21st, to recognize the safe work practices by all involved with the Chem-Ox project.

Progress Report

The Second Full-Scale Chem-Ox Application is currently being conducted at ACS Site. The work area is at the Southeast side of the site near the intersection of Colfax Street and Reder Road. Work began on March 15th and is being conducted in a series of three two-week cycles. For each two-week cycle, the crews will work for ten days (currently Tuesday through Thursday) and then take four days off (currently Friday through Monday). As of March 24th, 154 out of the estimated 445 injection points have been completed (156 was the number incorrectly reported during the March 24th On-Site Meeting). MWH is on schedule for the anticipated completion date of April 20, 2005 for the second full-scale application (see attached graph).

Injection activities were slowed slightly due to delay in the shipment of hydrogen peroxide to the site on March 18th. Also, during the last week occasional operational problems with the water source arose due to freezing of the flow regulator on the fire hydrant. MWH is now storing the regulator in the ACS groundwater treatment plant (GWTP) overnight to prevent the unit from freezing.

Upon completion of the Chem-Ox application, a letter will be issued summarizing the activities and proposing sampling locations for a post-application sampling event. The sampling will be scheduled for a date approximately four weeks after completion of the application. The results of the post-application sampling event will be used to design the third full-scale treatment. The third application is scheduled to start in late June or early July 2005.

Community Interaction

MWH has talked to the residents living at 1002 Reder Road to provide information regarding who to contact if they have any questions or concerns regarding the field work. Jim Reysome (Director of the Griffith Public Works) has given verbal approval to the Traffic Control Plan for the work in Colfax Ave. As the work progresses, MWH will communicate with Mr. Reysome's office to keep him informed of the exact days on which we will be closing traffic lanes for work.

On March 22nd, MWH hosted the Town of Griffith's Fire Department at the ACS GWTP for a site orientation. Twenty-nine members of the volunteer fire department attended and they were shown the various aspects of the treatment plant. The group was provided a tour of the GWTP and they were shown chemical storage areas, MSDS sheets, emergency plans, as well as given emergency contact information.

Other Topics

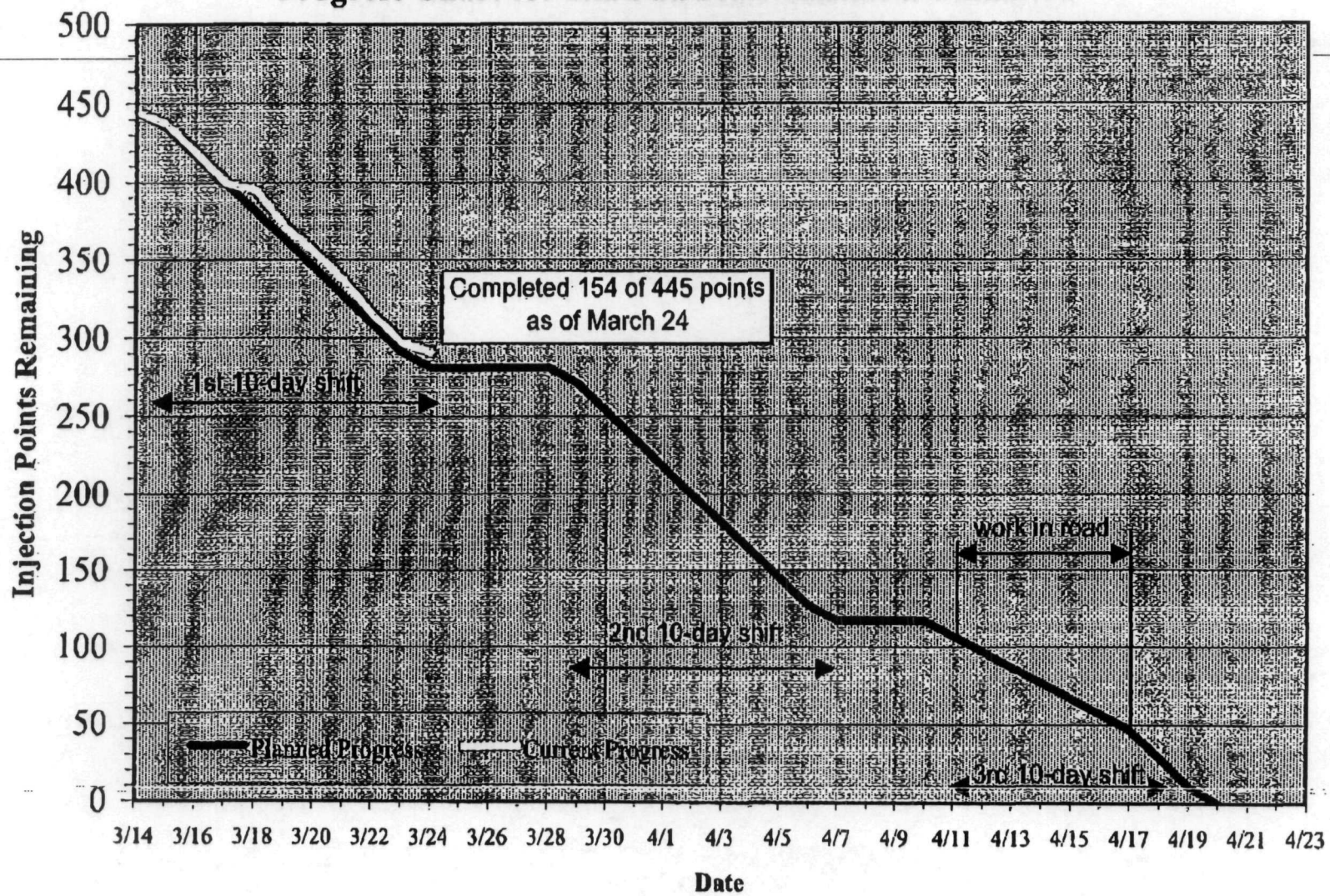
The March 2005 (First Quarter) Groundwater Monitoring Event began on March 21st. This event includes collection of groundwater samples from 32 upper and lower aquifer monitoring wells and laboratory analysis of the samples for indicator parameters. Sampling activities are scheduled to be completed on Tuesday, March 29th.

Look Ahead Schedule

| | |
|---------------------------------------|--|
| March 24, 2005 through March 31, 2005 | <ul style="list-style-type: none"> March 24th marked the end of the first 10-day shift. The second 10-day shift will begin at noon on Tuesday, March 29th. Enclosed with the minutes is a Progress Chart for the 2nd Full Scale Chem-Ox Injection through March 24th. The anticipated completion date is April 20th. The March 2005 Groundwater Sampling Event is scheduled to be completed on Tuesday, March 29th. |
| Health and Safety Items to Monitor | <ul style="list-style-type: none"> Routine daily tailgate health and safety meetings for all work activities Continued air monitoring in injection area Traffic safety awareness Practice proper chemical handling and storage procedures Monitor cold and wet weather conditions in advance |

Next Construction Meeting – Thursday, March 31, 2005, 2 P.M. at MWH Trailer at ACS

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Progress Chart for 2nd Full Scale Chemical Oxidation

Weekly Oversight Summary Report No. 213
ACS Superfund Site WA57, 46526.238

Reporting Period: Week of March 28, 2005

BVSPC O/S Dates: March 29 and 31, 2005 (Mr. Campbell)

| Personnel Summary Affiliation | No. of Personnel | Responsibility |
|--|------------------|---------------------------------|
| Montgomery Watson Harza | 4 | Respondent's General Contractor |
| Indiana Department of Environmental Management | 1 | State Regulatory Agency |
| Black & Veatch Special Projects Corp. | 1 | USEPA Oversight Contractor |
| PSA Environmental | 2 | Chemical Oxidation Driller |
| ISOTEC | 3 | Chemical Oxidation Contractor |
| Austgen | 1 | General Contractor |
| IES | 2 | General Contractor |
| Ryan Construction | 1 | General Contractor |
| Microbac | 1 | GWTP Sampling Contractor |

Construction Activities

Major Activities:

- Montgomery Watson Harza continued operating the groundwater treatment plant, the in-situ soil vapor extraction systems, and the air sparge systems.
- Montgomery Watson Harza continued the second round of chemical oxidation injections on and around the property at 1002 Reder Road (began second 10-day shift).
- Montgomery Watson Harza completed the semiannual groundwater sampling event.
- Montgomery Watson Harza reported theft of contractor's equipment.
- Montgomery Watson Harza conducted a chemical oxidation status meeting at the project site on March 31.

Activities Performed:

Montgomery Watson Harza (MWH) reported that it continued to operate the groundwater treatment plant (GWTP) at 27 gpm.

MWH reported it pumped the liquid from the biotank clarifier on March 28. On March 29, Independent Environmental Services (IES) used a pneumatic sludge pump to pump settled sludge from the clarifier cell into the biotank cells on the annulus of the clarifier. Water to dilute the sludge was obtained from the annulus cell using a sump pump. The sludge was approximately 2.5 feet deep in the clarifier cell. After removal of all the sludge from the clarifier cell and the central sump, no obstruction to rake rotation was found. MWH started the rake rotating and found that it worked fine. Thereafter, water was reintroduced into the clarifier cell; the rake was rotating satisfactorily through the end of the reporting period.

MWH continued to operate the On-Site Containment Area (ONCA) Still Bottoms Pond Area (SBPA) and Off-Site Containment Area (OFCA) in-situ soil vapor extraction (ISVE) systems.

ISOTEC and PSA remobilized to the site on March 29 to continue the chemical oxidation (ChemOx) injections in the off-site plume area near the house at 1002 Reder Road. MWH reported that it held tailgate safety meetings with ISOTEC and PSA prior to the beginning of work each day. Because the PSA personnel were not the same staff from the previous shift, MWH conducted a complete H&S briefing for the PSA staff. The safety meetings were attended by members from PSA, ISOTEC, and MWH. MWH reported that it was monitoring air quality at the ChemOx probe holes and in the worker's breathing zone, but had not detected any VOCs.

MWH reported that a total of 207 (of the planned 445) points had been injected as of the end of March 31. MWH reported that only 6 points remain inside the fence and 10 points outside the fence on Reder Road. The remainder of the points will be on the shoulders and in the roadway of Colfax Avenue.

MWH reported that some of ISOTEC's equipment had been stolen during the break, probably between the night of Saturday March 26 and the morning of Sunday March 27. Padlocks on the OFCA gate and the ISOTEC truck and trailer had been cut. Two portable generators and one portable air compressor were stolen from the truck. No other equipment was missing, and there was no damage to the chemicals or to PSA's equipment. ISOTEC will park its truck and towed air compressor adjacent to the GWTP. MWH continues to store the water regulator in the GWTP overnight to eliminate freezing problems.

MWH reported that it will maintain contact with the City of Griffith and with the family at 1002 Reder Road regarding the status of the ChemOx injection program. MWH reported that Jim Reyome, the Griffith Director of Public Works, had prepared a press release for distribution to local police, fire department, and newspapers regarding the ChemOx injection work in the roadway of Colfax Avenue starting on April 11. Contrary to MWH's plans to work longer hours on the weekend, Mr. Reyome recommended that MWH maintain the 9 AM - 3 PM scheduled planned for weekday work.

MWH reported that it had completed the semiannual groundwater sampling event on March 29. MWH reported that it had collected samples from 32 wells. MWH reported that the samples are being analyzed for indicator parameters [i.e., VOCs, SVOCs, arsenic, and bis(2-chloroethyl) ether] and expects the results in 3 to 4 weeks. The next full round of sampling and analyses will be conducted in September 2005.

MWH reported that Ryan Construction was onsite raking the gravel from the shoulder back onto the entrance road to the GWTP.

MWH conducted a ChemOx status meeting at the site on Thursday, March 31. Black & Veatch Special Projects (BVSPC) personnel attended this meeting.

Topics of Concern: None.

Concern Resolution: None.

Upcoming Activities:

- MWH to continue operating the GWTP and the OFCA and ONCA SBPA ISVE and air sparge systems.
- MWH to complete second 10-day shift of ChemOx injections.
- MWH to monitor odors in the ACS break room.
- MWH to assess results of additional soil gas samples to assess possible soil vapor intrusion into the house basement resulting from the smear zone in the South Area plume.
- MWH to reassess its approach to completing the lower aquifer investigation.
- Next construction progress meeting will occur onsite at 10 AM on April 7.
- Post ChemOx injection sampling will occur in May.
- Third round of ChemOx injections tentatively scheduled for late June / early July.
- MWH to install noise containment structure to reduce noise from GWTP blower.

Signature: Larry Campbell

Date: April 6, 2005

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**PROPOSED AGENDA -- SITE MEETING
MARCH 31, 2005
AMERICAN CHEMICAL SERVICE, NPL SITE
GRIFFITH, INDIANA**

MEETING DATE: Thursday, March 31, 2005

MEETING TIME: 02:00 PM

MEETING LOCATION: MWH Trailer at ACS

TOPICS:

CHEM-OX STATUS

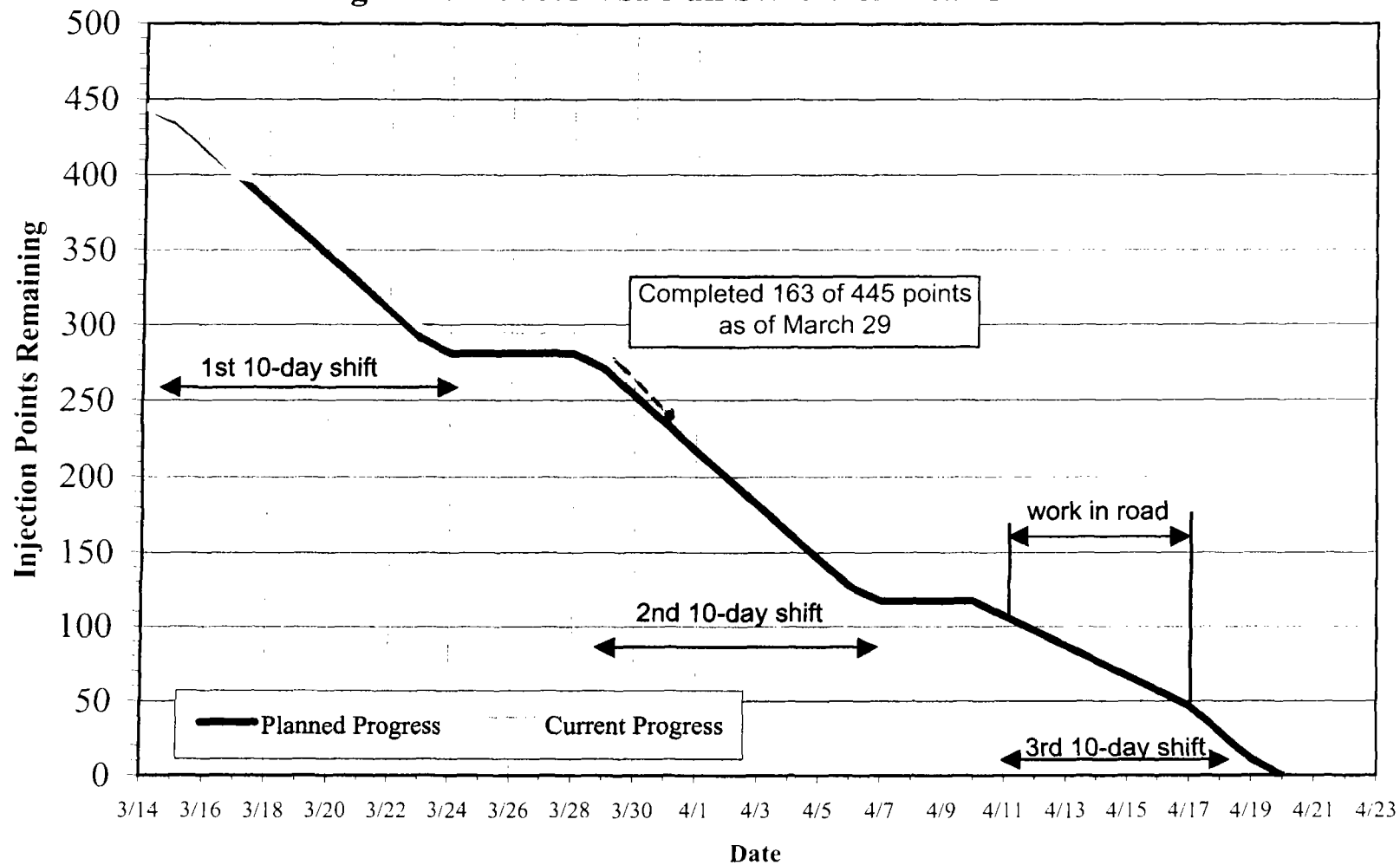
- Health and Safety
 - Incidents/On-going issues
 - Items to be addressed/items addressed
 - Summary of Kick-Off meeting held March 29th.
- Progress Report
 - Number of points completed
 - Anything that has effected progress
 - Anything identified that could effect future progress
- Look-ahead Schedule
 - Current 10-day shift
 - Estimated completion date
- Interaction with Community
 - Colfax lane-closure planning issues

OTHER TOPICS

- March 2005 Groundwater Monitoring Event
- Questions/Comments
- Next Meeting – 10 a.m., April 7th

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Progress Chart for 2nd Full Scale Chemical Oxidation



**WEEKLY CHEM-OX CONSTRUCTION MEETING MINUTES
FOR MARCH 31, 2005 MEETING
AMERICAN CHEMICAL SERVICE, NPL SITE
GRIFFITH, INDIANA**

MEETING DATE: Thursday, March 31, 2005

MEETING TIME: 2:00 PM

MEETING LOCATION: MWH Trailer at ACS

ATTENDEES: Larry Campbell – BVSPC
Prabhakar Kasarabada - IDEM
Matthew Mesarch – MWH
Chad Smith – MWH (by phone)
Peter Vagt – MWH

TOPICS

Health and Safety Summary

There have been no health and safety incidents since the last meeting on Thursday, March 24th. MWH is monitoring the air quality of the work area with a photo-ionization detector (PID). There have been no VOC detections in the breathing zone of the workers.

A theft occurred at the job site sometime between the night of Saturday, March 26th and the morning of Sunday, March 27th. The padlocks on the Off-Site Area gate and ISOTEC's truck and trailer were cut, and two portable generators and one portable air compressor were stolen from ISOTEC's truck. No damage was done to the reagent containers and all were accounted for. The thefts did not cause any delay in progress, as ISOTEC was promptly able to replace the stolen equipment. MWH placed a new padlock on the gate and ISOTEC installed new padlocks on their truck and trailer. For the rest of the project, ISOTEC will park their truck and a large towed air compressor near the groundwater treatment plant (GWTP) overnight. In addition, PSA Environmental will lock up their equipment overnight.

The second ten-day shift began on Tuesday, March 29th, with a health and safety kick-off meeting. ISOTEC's representatives for the second ten-day shift were the same as those from the first shift, so they participated in a more brief kick-off health and safety meeting. PSA's representatives for the second ten-day shift were different from those present during the first shift, and therefore PSA participated in a thorough kick-off meeting. MWH acquired all proper health and safety training documentation for the new PSA Environmental representatives.

Progress Report

As of March 30th, 207 out of the estimated 455 injection points were completed. MWH is on schedule for the scheduled completion date of April 20, 2005 for the second full-scale application. MWH anticipates that all injections in the yard at 1002 Reder Road will be completed by Friday, April 1st.

Mr. Kasarabada asked whether MWH planned any additional safety measures while drilling at the corner of Reder Road and Colfax Avenue. MWH indicated that they will use traffic cones around the work area, all workers will continue to wear high visibility traffic vests, and a spotter will be present to slow approaching vehicles. In addition, MWH will have all utility markings along Colfax Avenue re-marked prior to commencement of work in this area.

MWH will conduct a health and safety kick-off meeting to begin the third ten-day shift, which will include working on Colfax Avenue. The meeting will highlight traffic safety issues. All subcontractors will attend, including representatives from Walsh and Kelly, who will be providing traffic control while work is being conducted in the road.

Beginning Saturday, April 2nd, Mr. Carlos Claros will take over for Dr. Matthew Mesarch and manage the daily activities at the site. Mr. Claros will be onsite on Friday, April 1st, for a day of training prior to taking over.

Community Interaction

MWH has notified the residents living at 1002 Reder Road that one month's rent would be paid by the PRP group.

Look Ahead Schedule

| | |
|--------------------------------------|---|
| March 31, 2005 through April 7, 2005 | <ul style="list-style-type: none"> April 6th will mark the end of the second 10-day shift.¹ The third 10-day shift will begin with a kick-off meeting at 7:30 AM on Monday, April 11th. Enclosed with the minutes is a Progress Chart for the 2nd Full Scale Chem-Ox Injection. The anticipated completion date is April 20th. |
| Health and Safety Items to Monitor | <ul style="list-style-type: none"> Routine daily tailgate health and safety meetings for all work activities Continued air monitoring in injection area Traffic safety awareness Practice proper chemical handling and storage procedures Monitor wet weather conditions in advance |

¹ Note: subsequent to the March 31, 2005 meeting, MWH conferred with its subcontractors and decided to move the last day from Thursday, April 7th to Wednesday, April 6th, in order to give the subcontractors a 4-day break before the start of the third ten-day shift.

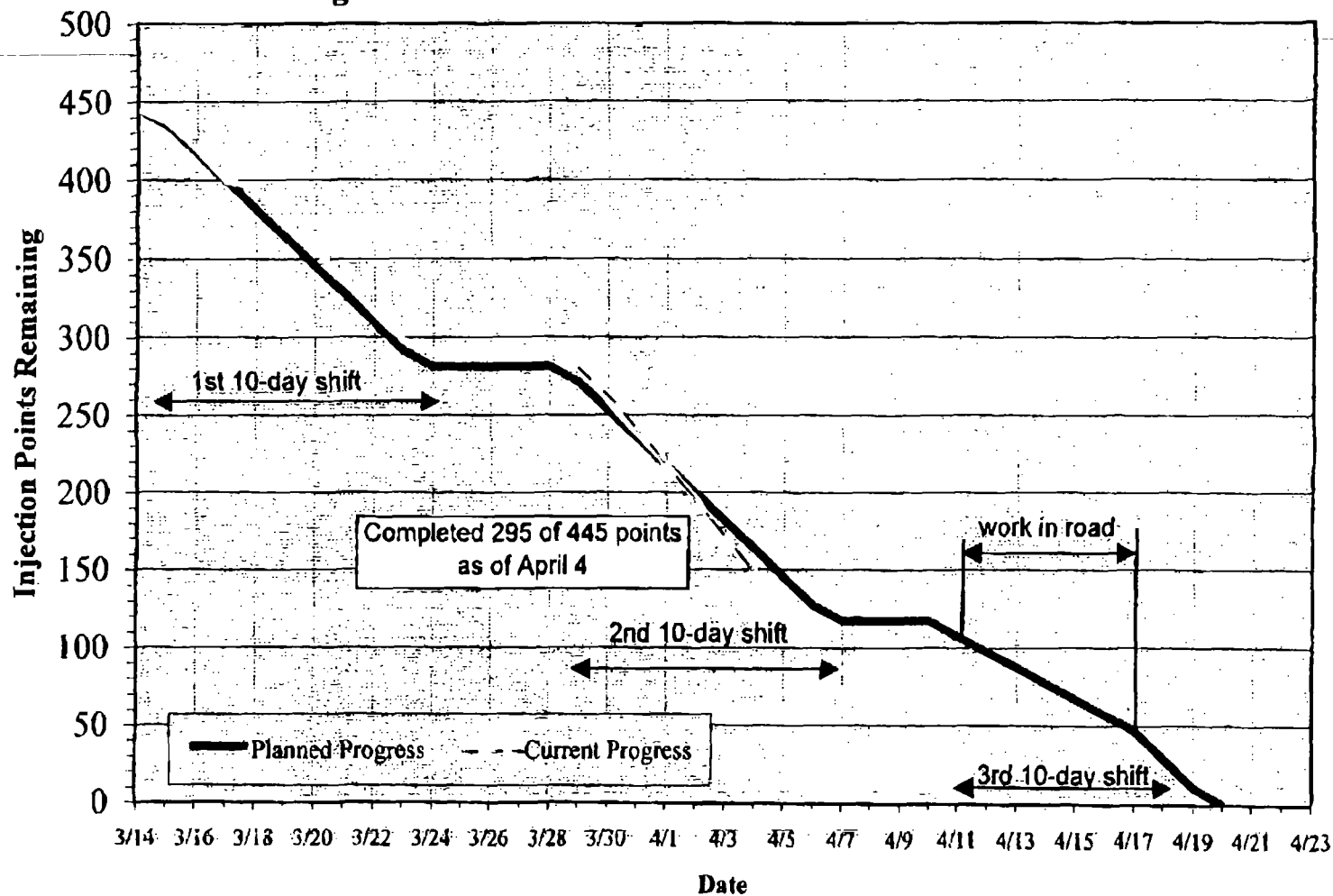
Other Topics

MWH completed the March 2005 Groundwater Monitoring Event on Tuesday, March 29th, and expects to receive analytical results in around second week of April.

Next Construction Meeting – Thursday, April 7, 2005, 10 a.m. at MWH Trailer at ACS (No Chem-Ox application activities will be taking place at the Site on this day).

MBM/CAS/PTV

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Progress Chart for 2nd Full Scale Chemical Oxidation

(130)

March 15, 2005

7:40 Arrive onsite for Kick off meeting
7:40 Meeting begins - attendees include
members from PSA, Isotech, MWH &
BVSPC. Lee Orszag gives overview of
ACS site - the operating facility and
warning system, and description of work
MWH is performing (ISVE, GW tx. plant)
He then reviews general H+S concerns:
traffic, spill control, heating hazard
(work tent), temperature issues, drilling
safety, vehicle & drum safety, hazard
communication. Chad Smith stated that
there will be a kickoff meeting at the
beginning of each 10 day work shift
since new staff from PSA & Isotech
will/may come out for each new
work shift. The third work shift will
include the work in the roadway - that
K.O. meeting will especially address
the traffic control issues and those people
performing the traffic control will be present
at that meeting. The hydrogen peroxide
to be used for the injection was delivered
in drums for now. The tanker will
not be delivered until Thursday.

Margaret M. Clark

March 15, 2005

(131)

The drums & eventual tanker will be
stored across the street in the opposite
area. A gravel pad has been constructed
approx. 100 ft. off the road. This location
is slightly uphill such that a spill
would be contained on the cap rather
than draining to the road. The tent will
be heated with an electric/propane
heater (not the electric motor & propane
located outside of the tent). The tent
will have a fire extinguisher. It is
unlikely that the heater will be needed,
according to Chad Smith. Lee Orszag
stated that all H+S paperwork will need
to be submitted ASAP. Matt Mensarich
reviewed work schedule: 10 days on,
7:45 am - 5:30 pm. Expects 15 points
to be completed per day.

8:30 Meeting ends.

8:40 Margaret spoke to Lee Orszag re:
groundwater leaking out of one piezometer
last week. All water was contained on
cap & it was a small volume. L. Orszag
turned off air sparging & cleaned up water.
Called BVS to let us know. We notified

Margaret M. Clark

(132)

March 15, 2005

Kevin Adler (EPA) Lee informed Margaret that they sucked the air out of the two wells next to the piezometer and they were able to turn the air sponge back on.

9:00 Photo 72-1, Facing West on OFCA

Photo of Isotech unloading hydrogen peroxide drums.

9:30 PSA Environmental begins pushing probes just behind NE corner of house. They are using mats under geoprobe to reduce damage to lawn.

10:50 Finish with drilling nine points. Isotech still unloading drums.

12:10 Facing north on property at NE corner of Redan & Colfax. Photo 72-2 of Isotech prepping site for mixing. Photo includes tent & water tanks.

They guess they will be ready to begin injections within the next hour. Apparently their generator is not working properly.

13:30 Begin pumping the chemos into three points. One point begins to leak the pumping was stopped & the joint in the rod was taped.

14:15 Facing south on property on the
Margaret M Clark

March 15, 2005

(133)

NE corner of Redan & Colfax. Photo 72-3 Photo of pumping/injection occurring on three points. Nine points were drilled today.

Personnel Onsite

Lee Orosz MWH

Matt Mesarch MWH

Aaron Butler PSA

Jack Butler PSA

Chad Smith MWH

Kevin O'Neal Isotech

Roger Retenon

Nike Temple

Prasad Katamla

Margaret Clark BV

Jeff Watson FPS

Jim Kirkland Anstyn

1530 Leave Site

~~Margaret M. Clark~~
March 15, 2005

Margaret M C

(134) ^{pm} March 17, 2005

7:50 Arrive onsite.

Personnel Onsite

Lee Orsoz MWH

Matt Mensarch MWH

Kevin O'Neal Isotech

Prasad Kakaula Isotech

Roger Reterser Isotech

Julie Butler PSA

Aaron Butler PSA

Margaret Clark BVSPC

Weather 40°F and partly cloudy. Began daily tool box talk. Lead by Matt Mensarch and eye protection, forklift safety were discussed. Plan on completing 18 points today.

They completed 18 points yesterday. F38 Photo 72-~~26~~²⁵ Facing south on property at 1002 Reder Rd. Photo of point's ~~are~~ marked for drilling. Working along east side of driveway between concrete pad & south PE. Plan on 18 points today.

9:35 Facing SW. Photo 72-~~26~~²⁵ of drillers at point 7 of the day.

9:45 Began injections at three points

10:00 Photo 72-~~26~~²⁶ facing west on property at 1002 Reder. Photo of Margaret M. Clark

March 17, 2005

(135) ^{pm}

tanks & pumps & Isotech staff.

11:00 When pumping is complete & rods are removed a smell is detected from the off-gas. Matt Mensarch has a PID & is monitoring the breathing zone areas. Minimal detections are seen on the PID in the breathing zone area and none of the detections sustain for more than one or two seconds. —

1400 Weekly Construction Meeting.

Attended by: Lee Orsoz, Chad Smith, Prabhakar Kasarabada (IDEM), Matt Mensarch, Margaret Clark → onsite, Pete Vaght (MWH), Amy Clore (MWH), Todd Lewis (MWH), Kevin Adler (USEPA) → via phone.

• Chem Ox Status: H&S Isotech mobilized on Monday. Reviewed what was covered at Tuesday's kick off meeting (see p. 129); Plan on working 10 day shifts w/ four days between each shift. Will have a H&S kick off meeting at the beginning of ea. 10 day shift which can address any special concerns during ea. period of work (i.e. - traffic control).

- Progress Report: Tuesday's peroxide shipment resulted in delays as it

Margaret M. Clark

(136) March 17, 2005

was delivered in 55 gallon drums rather than the scheduled tank. Lortech spent most of the morning unloading the drums; On Tuesday 8 points were completed, 18 points on Wednesday and 18 are expected today. There has been some off gassing at points after injection. A PID is being used to monitor breathing zone. Concentrations are high right at the ground but significantly dissipate two feet above ground. They have begun drilling/injecting at every other point to minimize subsurface pressure.

Future schedule: 15 points per day
anticipate completion date - April 20th

- Interaction w/ Community: four of five residents have stopped by and M. Mesarch has had discussions with residents of home at 1002 Cedar.

- Future schedule:

- Expect to sample in mid to late May, MWH will write up a brief summary report w/ proposed sampling locations (similar to last time).

Margaret M. Clark

March 17, 2005

(137)

- The third round of injections will occur shortly after the sample results are analyzed (late June/July)
- Groundwater sampling is scheduled to begin on Monday.
- Next meeting → next Thursday at 10 am. Will cover progress on Chem Ox and GW sampling.

1430 Meeting concluded

1435 Returned to site of Chem Ox inject. work. Ongoing work in front yard. Currently 14 points have been drilled. Will be able to complete 18 today. When points are complete, they are vented w/ drill rods in place & control valve (to prevent peroxide/water from spraying out) for approx. 20 min. When rods are removed the hole is backfilled with sand (last round bentonite was used.)

1530 Leave site for day.

~~Margaret M. Clark
March 17, 2005~~

Margaret M. Clark

(138)

Thur 24 Mar 05
0830 Arrive on site - 37°F
Clear, Cool, Calm, high fog

Personnel On Site

| | |
|----------------|----------|
| Lee Cross | MWH |
| Matt Meserich | " |
| Aaron Butler | PSA Envt |
| Jake Butler | " " |
| Mike Temple | Isotec |
| Roger Reirsen | " |
| Gary Schreibo | " |
| Chad Smith | MWH |
| Tim Kirkland | Austgen |
| David Powers | MWH |
| Daniel Gough | Ryan |
| Larry Campbell | BUSPC |
| Pete Vagt | MWH |

0900 Visit Chemox Injection Site
Have completed all prints E & S
of house. Are on schedule

0919 Photo 72-⁷¹⁰ Looking NW at

Chemox air pumps, tanks, tent

0925 Photo 72-⁷¹⁰ Looking NW into tent

Jim Campbell

(139)

Showing drums of Catalytic

0929 Photo 72-⁷¹⁰ Looking SW at Hydrogen
Peroxide tank in OFA being offloaded into
drums.

1000 Const. Mtg - See notes (below)

1046 Photo 72-⁷¹⁰ Looking NW at Radon
Vent in NE corner of house at
1002 Rebar Rd.

1100 Observed Chad Smith & David
Powers collecting sample from NW SL

1105 Disc. with Kevin Adler & Pete Vagt
regarding plans for a final const.
completion Rept. for the site

1200 Left site for lunch

1250 Returned to site. Inspected
SBPA fencing w/ Kevin & Pete

1300 Left site for day

1000 Const. Coord. Mtg Notes

Attendees:

Lee Cross, Pete Vagt, Matt Meserich
Chad Smith MWH - @ site
Amy Clare - MWH - phone
Kevin Adler - USEPA - site
Larry Campbell - BUSPC - site

Jim Campbell

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H&S - MWH has conducted daily tailgate H&S mtgs w/ ISOTEC & PSA personnel. MWH is monitoring air contaminants w/ PID at ground & breathing zone at Chemox gasprobe holes. No measureable levels of breathing zone. MWH provided H&S luncheon for contractors as positive response to their H&S performance.

Chemox - ISOTEC completed 150 injection points thru yesterday - will complete 6 today for total of 156 during first 10-day rotation.

Initially ~~Shedd~~^{they} hydrogen peroxide arrived in drums rather than bulk -- Unloading drums slowed beginning of operation. Also water flow regulator had frozen, causing slow receipt of water. Now storing regulator in GWTP to minimize these problems.

Chemox basically installed w/ minimal problems.

Community Involvement - MWH has maintained contact w/ Reuters.
 Jim Campbell

141

at 1000 Cedar Rd re Chemox injection.

- Gr. Park Dept Public Works has approved Traffic Control Plan for work on Colfax Ave.

- Griffiths Fire Dept. personnel (29) visited site for an overview briefing of activities at GWTP & list of MWH contact personnel.

~~GW~~ - MWH has received proposal for noise containment around air compressor. Will install w/ 2-3 weeks around large blower.

GW Sampling - MWH took water levels on March 21. MWH has sampled 14 of 32 wells thru this morning. Should complete by next ~~morning~~ Tuesday. Chad Smith noted that GW level is highest he's observed in last 5 years.

Brookline Clarifier Gearbox

Gearbox was reinstalled on Mar 16 when turned on, broke shear pin. MWH will use IES to remove

Jim Campbell

(142)

Sludge from clarifier next Tues
+ try to locate cause of rake
non rotation.

GLWTP - operating at 27 gpm
MWH is changing pumping
logic control to maximize throughput
thru plant. Water coming from
all avail sources

On Wed Mar 9 Lee had reported
water coming out of Piezometer P236
in SBPA. He shut off Air Sparg
unit + flow stopped. Only ~1 gal
was emitted. It didn't leave
the cup

Maintenance

Ryan Const has employee
on site raking gravel from
grass shoulder back onto
entrance road.

Look Ahead

Resume Cheney next Tues 3/29
Continue GW sampling
clean out clarifier tank

Next Mtg - Thurs 3/31 @ 2 pm
1030 Mtg over

Jim Campbell

(143)

Tues 29 March 2005
1300 Arrive onsite. partly cloudy,
windy, warm 68°F

Personnel Onsite

| | | |
|----------------|---|-------------|
| Lee Cross | - | MWH |
| Amy Clore | - | " |
| Mike Petrich | - | IES |
| Terrance Jones | - | " |
| Chad Smith | - | MWH |
| Matt Mesurech | - | " |
| Tim Kirkland | - | Austgen |
| Dan Gough | - | Ryan Const. |
| Gary Schreiber | - | ISO TEC |
| Mike Temple | - | " |
| Roger Reirson | - | " |
| Wes Trammell | - | PSA Envt |
| Kenny Doane | - | " " |
| Larry Campbell | - | BUSPC |

Jim Campbell

(144)

- 1305 Photo 73-1 Looking down into clarifier well showing IES personnel (in respirator) using water hose & pneumatic sludge pump to remove sludge from clarifier. Sludge pumped into surrounding cells of biotank.
- 1317 Photo 73-2 looking N at rebuilt garbox to turn clarifier rakes.
- 1320 Photo 73-3 looking down into clarifier well showing pneumatic pump, IES employee standing on clarifier bottom.
- 1325 Photo 73-4 looking E showing MWH personnel repositioning discharge hose.
- 1330 Photo 73-5 looking SE at dark discharge of liquified sludge into biotank cell.
- 1337 Photo 73-6 looking into BWTP lab showing MWH personnel packing samples from MWH samplings.
- 1340 Chad Smith reported that 32 wells had been sampled. He also reported that Isotec's
- J McAmphrey

(145)

- truck & trailer in AFCA had been vandalized over weekend. Padlocks on gate & trucks had been cut and 2 generators and 1 compressor had been stolen. Report made later today to Gresham police.
- 1400 Photo 73-7 looking N at Chemix injection points, PSA gas probe rig, and ISOTEC Mixing Tanks.
- 1404 Photo 73-8 looking SW showing Isotec transferring hydrogen peroxide into tank of water to dilute it from 50% to 17% Hydro peroxide.
- 1413 Photo 73-9 looking S on Colfax Ave showing ISOTEC truck on shoulder of road & warning signs & traffic cones.
- 1417 Photo 73-10 looking SW showing ISOTEC transporting drums of 50% hydrogen peroxide across Colfax Ave to mixing area. Note flagger stopping traffic.
- 1433 Photo 73-11 looking E showing Ryan Const. employee raking gravel back onto roadway.
- Jm Campbell

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- 1440 Photo 73-12 Looking into clarifier showing IES using sump pump discharge of water from biotank to loosen sludge in clarifier
- 1530 Photo 73-13¹⁴ Looking into clarifier after almost all sludge was removed. Only 2"-3" sludge remains
- 1533 Photo 73-14¹⁵ Looking SW at PSA backfilling injection probe hole in sand
- 1600¹⁵ Left site for Day
- 1500 Photo 73-13 Looking N showing sump pump discharge used to liquify sludge in clarifier. Jim

Jim Campbell

147

31 March 05

- 0900 Arrive onsite - overcast windy Cold 47°F light mist Personnel on site
- Matt Meserich - Matt
 Dan Gough - Ryan
 Kenny Doane - PSA
 Wes Trammell - PSA
 David Powers - Matt
 Mike Temple - ISOTEC
 Roger Ransom - "
 Gary Schreine - "
 Mike Monowicki - Microbac
 Larry Campbell - BVEPC
 Tim Kirkland - Austgen
- 0905 Tim reported that Lee was off today taking pre test for plant operator's testing.
- 0940 Photo 73-15¹⁶ Looking N at Microbac employee collecting sample from biotank
- 0941 Photo 73-16¹⁷ Looking NE down into clarifier well - filled w/ water. Rake is rotating.
- 0948 Photo 73-17¹⁸ Looking SE at ORCA showing ISOTEC hydrogen peroxide Tank trailer

Jim Campbell

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- 0930 Photo 73-18^{19 Jan} looking S down into
bioreactor coils - Note V. dark (muddy)
colored liquid on Left cell (where
Sludge had been discharged) and
clearer water on Right cell
- 0955 Photo 73-19^{20 Jan} looking NE at
Microbac employee collecting
samples in GWT
- 1010 ~~Photo~~ Moved to Chemox injection
location. Matt Mesarch introduced
Dore Powers who is being OJT trained
to supervise Chemox work in roadway
- 1013 Photo 73-20^{21 Jan} looking N showing
Isotec mixing tanks - note
bunker up stuff in old weather.
- 1017 Photo 73-21^{22 Jan} looking NE showing
PSA removing injection probe in
rear of house
- 1030 Dose by Tim Kirkland who
reported that NO obstacle was
found in Clarifier well - just
sludge. Clarifier well was
entirely cleaned out & race started
on Wed 3/30/05 w/ NO problems.
Then refilled Clarifier well w/ water

JM Campbell

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- GWT is processing water, but not
currently pumping water from wells
- 1200-1300 Lunch
- 1400-1435 Const Mtg - See notes p 149-151
- 1515 Check progress of Chemox
completing last 2 probes in back yard
- 1530 Left site for day

1400 Const. Mtg. Minutes

Attendees

Pete Vogt, Matt Mesarch - WWT
Prabhakar Kasarabada - IDEM
Larry Campbell
Chad Smith - Phone

~~HAS~~ NO incidences since mtg last
Thursday. Matt taking PID readings
in breathing zone of persons working
~~that are within~~ near Chemox probes
None detected.

Isotec reports a breakdown of
its truck & trailer over last weekend.
Stole 2 generators & 1 small generator.
Isotec is now storing truck &
compressor in GWT area at night.
PSA had no losses

JM Campbell

(150)

MWH conducted H&S Tailgate Mtg Tues In Isotec staff (all returned from previous week)
MWH conducted complete H&S briefing for New PSA staff.
MWH has copies of all training & medical response certificates.

Chemox

MWH reported completing 24 injection points yesterday for a total of ~~207~~¹⁸⁷ total.
MWH expects to complete additional 20 today for a total of 207.
After today will have 6 points remaining in yard and 10 pts outside fence on Peder Rd.
All other points are in Colfax Ave area.

MWH reported the attorney will send check for renter's rent soon.

Interaction in Community

MWH had conversation w/ Jim Raynor of Griffith Dept Publ who is working in Colfax. Jim prepared a press release to local papers, police

Jim Campbell

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and fire dept re Chemox work in Colfax area. He recommended that MWH keep the 9A-3P work schedule even on weekends. Isotec will stage its box truck in 1 shift. MWH will patch hole in asphalt w/ black concrete.

Geo Monitoring

Completed sampling 32 wells in Tues 3/29. Testing for indicator parameters (VOCs, arsenic, bis 2-chloro-ether). Expect results in 3-4 weeks.

Next full sampling in Nov.

GWTP - Clarifier lock was cleaned & sludge on Tuesday & Wed. David found no problem w/ equipment & working OK now. No water coming into plant from wells.

Look Ahead

Chemox to complete today shift next Thurs. Carlos Clares will be inspector in Matt's absence.

Est. Compl. date on schedule

Next Mtg. Thur April 7 @ 10 AM - full Mtg w/ performance results.

Jim Campbell



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 72 Photo #1

Date: 3-15-05 Time: 0900

Photographer: Margaret Clark

Description: Photo facing west on OFCA showing ISOTEC unloading drums of hydrogen peroxide.

Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 72 Photo #2

Date: 3-15-05 Time: 1210

Photographer: Margaret Clark

Description: Photo facing north at 1002 Reder Road showing ISOTEC preparing site for mixing chemicals. Note tent in background to keep catalyst warm.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 72 Photo #3

Date: 3-15-05 Time: 1415

Photographer: Margaret Clark

Description: Photo facing south at 1002 Reder Road showing injection points on east side of house. Note use of mats to minimize damage to yard.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 72 Photo #4

Date: 3-17-05 Time: 0830

Photographer: Margaret Clark

Description: Photo facing south at 1002 Reder Road showing points marked for chem-ox injections.



Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 72 Photo #5
 Date: 3-17-05 Time: 0935
 Photographer: Margaret Clark
 Description: Photo facing southwest at 1002 Reder Rd.
 showing PSA installing injection point.



Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 72 Photo #6
 Date: 3-17-05 Time: 1000
 Photographer: Margaret Clark
 Description: Photo facing west showing ISOTEC mixing
 tanks, pumps, and hoses to inject the
 modified Fenton's reagent.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 72 Photo #7

Date: 3-24-05 Time: 0919

Photographer: Larry Campbell

Description: Photo facing northwest showing chem-ox tanks, pumps, drums, and tent



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 72 Photo #8

Date: 3-24-05 Time: 0925

Photographer: Larry Campbell

Description: Photo facing northwest into tent showing mixing tanks of catalyst.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 72 Photo #9

Date: 3-24-05 Time: 0929

Photographer: Larry Campbell

Description: Photo facing southwest showing hydrogen peroxide tank in OFCS being offloaded into drums.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 72 Photo #10

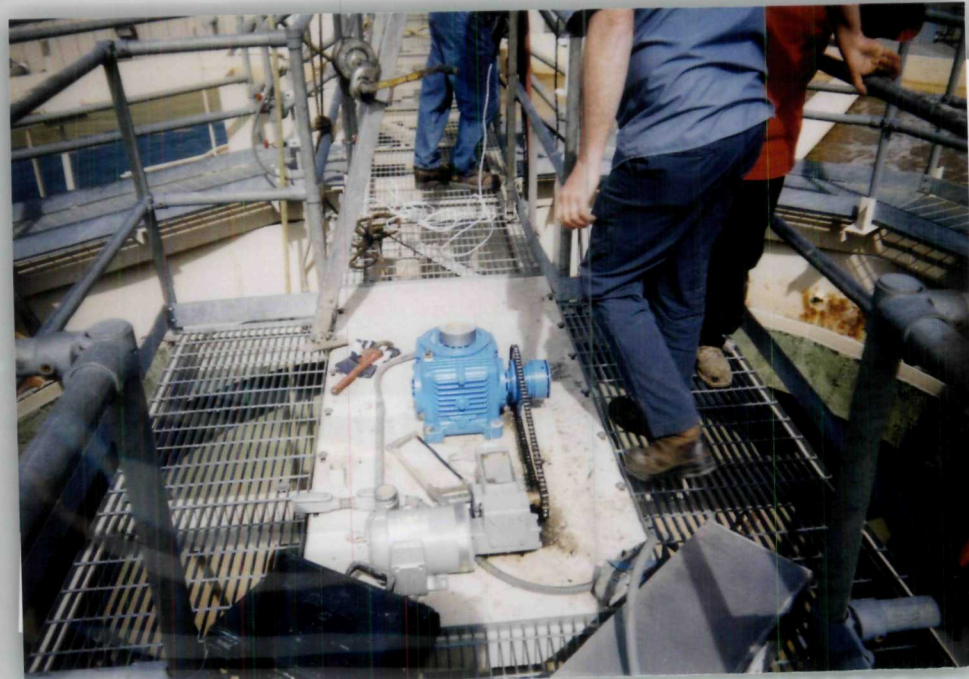
Date: 3-24-05 Time: 1046

Photographer: Larry Campbell

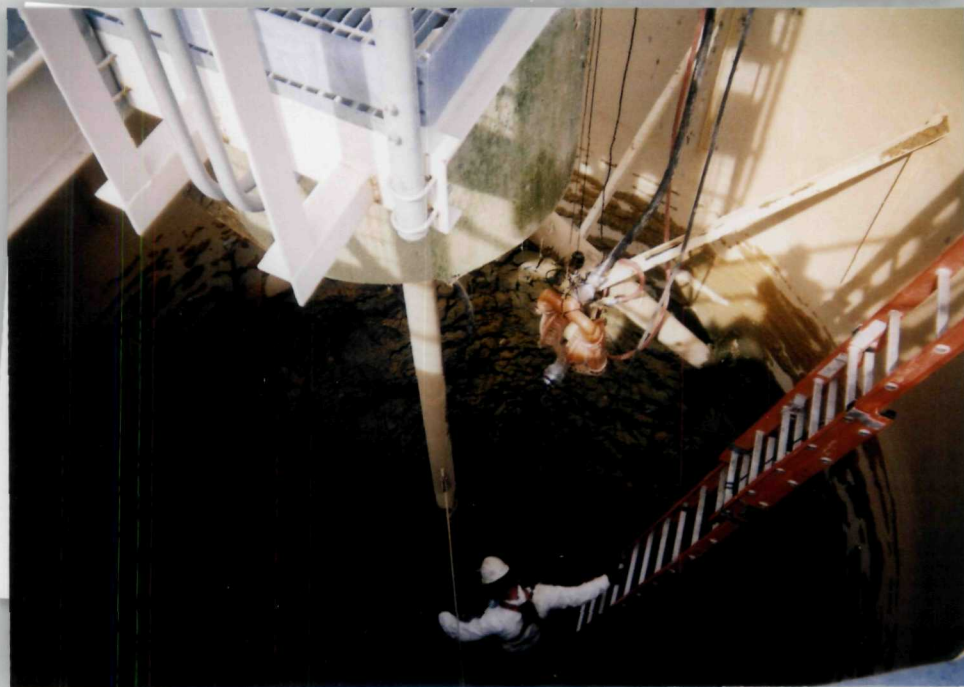
Description: Photo facing northwest showing radon vent installed on house at 1002 Reder Road.



Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 73 Photo #1
 Date: 3-29-05 Time: 1305
 Photographer: Larry Campbell
 Description: Photo facing down into clarifier well
 showing IES personnel (in respirator) using
 water hose and pneumatic pump to remove
 sludge from clarifier



Site: American Chemical Service, Inc.
 Proj. #: 46526 Photo #2
 Roll: 73 Time: 1317
 Date: 3-29-05
 Photographer: Larry Campbell
 Description: Photo facing north showing rebuilt gearbox
 (blue) to turn clarifier rake.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 73 Photo #3

Date: 3-29-05 Time: 1320

Photographer: Larry Campbell

Description: Photo facing down into clarifier well showing pneumatic pump (suspended). IES employee is standing on clarifier bottom.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 73 Photo #4

Date: 3-29-05 Time: 1325

Photographer: Larry Campbell

Description: Photo facing east showing Austgen employee repositioning sludge discharge hose into biotank cell surrounding clarifier.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 73 Photo #5

Date: 3-29-05 Time: 1330

Photographer: Larry Campbell

Description: Photo facing southeast showing dark discharge of liquified sludge into annulus cell in biotank.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 73 Photo #6

Date: 3-29-05 Time: 1337

Photographer: Larry Campbell

Description: Photo facing into GWTP lab showing MWH personnel packing groundwater samples for shipment to laboratory.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 73 Photo #7

Date: 3-29-05 Time: 1400

Photographer: Larry Campbell

Description: Photo facing north showing chem-ox injection points, PSA geoprobe rig, and ISOTEC mixing tanks.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 73 Photo #8

Date: 3-29-05 Time: 1404

Photographer: Larry Campbell

Description: Photo facing southwest showing ISOTEC technician transferring hydrogen peroxide into tank of water to dilute the hydrogen peroxide concentration from 50% to 17%.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 73 Photo #9

Date: 3-29-05 Time: 1413

Photographer: Larry Campbell

Description: Photo facing south showing ISOTEC yellow truck on shoulder of Colfax Ave, warning sign, and traffic cones.

Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 73 Photo #10

Date: 3-29-05 Time: 1417

Photographer: Larry Campbell

Description: Photo facing southwest showing ISOTEC transporting drums of 50% hydrogen peroxide across Colfax Ave. to mixing area. Note flagger stopping traffic.



Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 73 Photo #11
 Date: 3-29-05 Time: 1433
 Photographer: Larry Campbell
 Description: Photo facing east showing Ryan employee
 raking gravel back onto entrance roadway.



Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 73 Photo #12
 Date: 3-29-05 Time: 1440
 Photographer: Larry Campbell
 Description: Photo facing down into clarifier showing
 water pumped from biotank to loosen
 sludge in clarifier for subsequent pumping
 back into biotank cell.



Site: American Chemical Service, Inc.

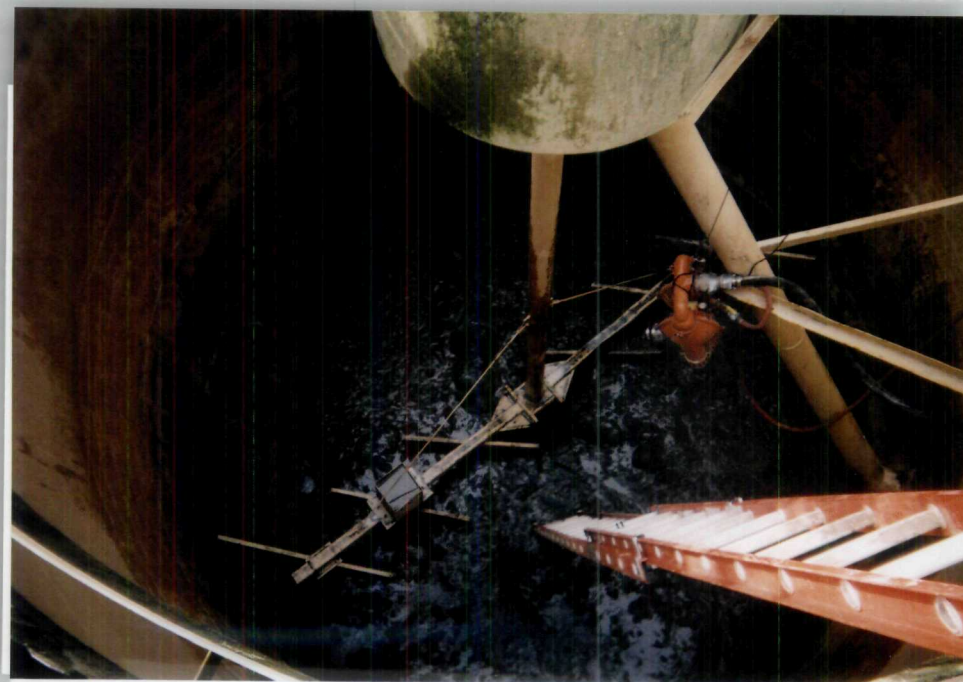
Proj. #: 46526

Roll: 73 Photo #13

Date: 3-29-05 Time: 1500

Photographer: Larry Campbell

Description: Photo facing north showing sump pump discharge from biotank used to liquify sludge in clarifier for pumping.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 73 Photo #14

Date: 3-29-05 Time: 1530

Photographer: Larry Campbell

Description: Photo facing down into clarifier after almost all sludge was removed (only 2" - 3" remained). Note clarifier rake is visible at base of clarifier.



Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 73 Photo #15
 Date: 3-29-05 Time: 1533
 Photographer: Larry Campbell
 Description: Photo facing southwest showing PSA
 employee backfilling injection probe hole
 with sand.



Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 73 Photo #16
 Date: 3-31-05 Time: 0900
 Photographer: Larry Campbell
 Description: Photo facing north on biotank showing
 Microbac technician collecting sample from
 biotank.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 73 Photo #17

Date: 3-31-05 Time: 0941

Photographer: Larry Campbell

Description: Photo facing northeast showing clarifier well filled with water after sludge removed. Rake is rotating without problem.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 73 Photo #18

Date: 3-31-05 Time: 0948

Photographer: Larry Campbell

Description: Photo facing southeast at OFCA showing ISOTEC hydrogen peroxide tank trailer in background.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 73 Photo #19

Date: 3-31-05 Time: 0950

Photographer: Larry Campbell

Description: Photo facing south down into biotank cells.
Note dark (muddy) colored liquid in left cell
(where sludge had been discharged) and
clear water in right cell.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 73 Photo #20

Date: 3-31-05 Time: 0955

Photographer: Larry Campbell

Description: Photo facing northeast showing Microbac
technician collecting samples in the GWTP.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 73 Photo #21

Date: 3-31-05 Time: 1013

Photographer: Larry Campbell

Description: Photo facing north showing ISOTEC mixing tanks. Note jackets and hoods on staff because of cold weather.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 73 Photo #22

Date: 3-31-05 Time: 1017

Photographer: Larry Campbell

Description: Photo facing northeast showing PSA removing injection probe in rear of house at 1002 Reder Road.